I hereby certify that this correspondence is [redacted] deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, Washington, DC 20231" on

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Atty Dkt No. 2000-0007
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PATENT

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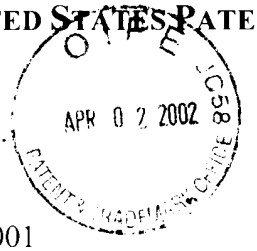

In Re Application of:
Jay KEASLING et al.

Serial No.: 10/006,909 Group Art Unit: 1645

Filing Date: December 6, 2001 Examiner: Unassigned

Title: BIOSYNTHESIS OF ISOPENTENYL PYROPHOSPHATE

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
Washington, DC 20231

Sir:

This is an Information Disclosure Statement submitted for the Examiner's consideration. Applicants respectfully request that the Examiner review and make of record the references identified below.

A PTO-1449 form listing the references accompanies this paper. Applicants would appreciate the Examiner's initialing and returning the form to indicate that the references have been reviewed and made of record. The references are as follows:

U.S. PATENT DOCUMENTS		
Document No.	Issue Date or Publication Date	Name of Patentee or Applicant
6,072,045	6/6/00	Chappell et al.
6,114,160	9/5/00	Croteau et al.
6,190,895	2/20/01	Croteau et al.
6,281,017	8/28/01	Croteau et al.
6,284,506	9/4/01	Hoshino et al.
6,291,745	9/18/01	Meyer et al.
6,306,633	10/23/01	Wilding et al.

NONPATENT DOCUMENTS
Altincicek et al. (2001), "GcpE Is Involved in the 2-C-Methyl-D-Erythritol 4-Phosphate Pathway of Isoprenoid Biosynthesis in *Escherichia coli*," *Journal of Bacteriology* 183(8):2411-2416.
Amann et al. (1988), "Tightly Regulated *Tac* Promoter Vectors Useful for the Expression of Unfused and Fused Proteins in *Escherichia coli*," *Gene* 69:301-315.
Barkovich et al. (2001), "Metabolic Engineering of Isoprenoids," *Metabolic Engineering* 3(1):27-39.
Campos et al. (2001), "Identification of *gcpE* as a Novel Gene of the 2-C-Methyl-D-Erythritol 4-Phosphate Pathway for Isoprenoid Biosynthesis in *Escherichia coli*," *FEBS Letters* 488:170-173.

This Information Disclosure Statement is not intended as a representation that a search has been made, that additional information material to the examination of this application does not exist, or that any of the above references constitutes prior art to the present application within the meaning of 35 USC § 102.

As applicants have not yet received a first Action on the merits, no fee is required for filing this Information Disclosure Statement. If, however, the PTO finds that for some reason a fee is found to be necessary, our Deposit Account No. 18-0580 may be charged therefor. **A duplicate copy of this paper is enclosed.**

Respectfully submitted,

By: Mark A. Wilson

Mark A. Wilson
Registration No. 43,275

REED & ASSOCIATES
800 Menlo Avenue, Suite 210
Menlo Park, California 94025
(605) 330-0900 Telephone
(650) 330-0980 Facsimile

NONPATENT DOCUMENTS
Campos et al. (2001), "*Escherichia coli* Engineered to Synthesize Isopentenyl Diphosphate and Dimethylallyl Diphosphate from Mevalonate: A Novel System for the Genetic Analysis of the 2-*C*-Methyl-D-Erythritol 4-Phosphate Pathway for Isoprenoid Biosynthesis," *Biochem. J.* 353:59-67.
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Toth et al. (1996), "Molecular Cloning and Expression of the cDNAs Encoding Human and Yeast Mevalonate Pyrophosphate Decarboxylase," *The Journal of Biological Chemistry* 271(14)7895-7898.
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Wang et al. (1999), "Engineered Isoprenoid Pathway Enhances Astaxanthin Production in *Escherichia coli*," *Biotechnology and Bioengineering* 62(2):235-241.
Wang et al. (2000), "Directed Evolution of Matabolically Engineered Escherichia coli for Carotenoid Production," *Biotechnol. Prog.* 16(6):922-926.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	1	of	2

Complete if Known	
Application Number	10/006,909
Filing Date	December 6, 2001
First Named Inventor	Jay KEASLING et al.
Art Unit	1645
Examiner Name	Unassigned
Attorney Docket Number	2000-0007

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	Document No.	Issue Date or Publication Date	Name of Patentee or Applicant of Cited Document	Class	Subclass	Filing Date if Appropriate
	AA	6,072,045	6/6/00	Chappell et al.			
	AB	6,114,160	9/5/00	Croteau et al.			
	AC	6,190,895	2/20/01	Croteau et al.			
	AD	6,281,017	8/28/01	Croteau et al.			
	AE	6,284,506	9/4/01	Hoshino et al.			
	AF	6,291,745	9/18/01	Meyer et al.			
	AG	6,306,633	10/23/01	Wilding et al.			

OTHER DOCUMENTS — NONPATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), Title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	AH	Altincicek et al. (2001), "GcpE Is Involved in the 2-*C*-Methyl-D-Erythritol 4-Phosphate Pathway of Isoprenoid Biosynthesis in *Escherichia coli*," *Journal of Bacteriology* 183(8):2411-2416.	
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Examiner Signature		Date Considered	

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First Named Inventor	Jay KEASLING et al.
Art Unit	1645
Examiner Name	Unassigned
Attorney Docket Number	2000-0007

OTHER DOCUMENTS — NONPATENT LITERATURE DOCUMENTS			
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